

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

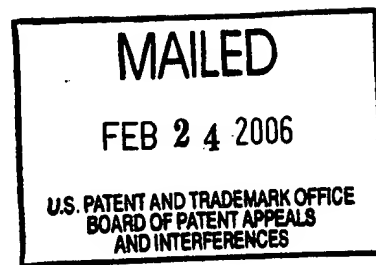
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARC LAMBERTON,
ERIC LEVY-ABEGNOLI
and PASCAL THUBERT

Appeal No. 2006-0252
Application No. 09/755,564

ON BRIEF



Before HAIRSTON, JERRY SMITH, and MACDONALD, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-5 and 7-14, which constitute all the claims pending in the application.

The disclosed invention pertains to a method for defeating a SYN flooding attack in a server unit of an Internet Protocol network. A SYN flooding attack is a type of denial of service attack which attempts to overwhelm a server with a vast number of spurious communications.

Representative claim 1 is reproduced as follows:

1. A method for defeating, in a server unit of an Internet Protocol network, a SYN flooding attack, said server unit running Transmission Control Protocol to allow the establishment of one or more transmission control protocol connections with one or more client units, said method comprising the steps of:

upon having activated the transmission control protocol in said server unit,

listening for the receipt of a SYN message sent from a client unit;

upon receiving said SYN message,

computing an Initial Sequence number Receiver side, wherein said Initial Sequence number Receiver side is embedded with connection parameters specified in the SYN message;

responding to said client unit with a SYN-ACK message including said Initial Sequence number Receiver side;

resuming to said listening step; and

responsive to receiving an ACK message, determining whether to establish a transmission control block for the client unit by evaluating an incremented value of the Initial Sequence number Receiver side included in the ACK message.

The examiner relies on the following reference:

Denker	5,958,053	Sep. 28, 1999
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Claims 1-5 and 7-14 stand rejected under 35 U.S.C. § 102(e) as being anticipated by the disclosure of Denker.

Rather than repeat the arguments of appellants or the examiner, we make reference to the brief and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the examiner and the evidence of anticipation relied upon by the examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the brief along with the examiner's rationale in support of the rejection and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the disclosure of Denker does fully meet the invention as set forth in the claims on appeal. Accordingly, we affirm.

Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.); cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore and Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

The examiner has indicated how the claimed invention is deemed to be anticipated by the disclosure of Denker [answer, pages 4-10]. With respect to independent claim 1, appellants argue that Denker does not anticipate the claim because Denker does not teach the step of "responsive to receiving an ACK message, determining whether to establish a transmission control block for the client unit by evaluating an incremented value of the Initial Sequence number Receiver side included in the ACK message." Specifically, appellants argue that the portions of Denker cited by the examiner fail to support the examiner's findings in support of anticipation [brief, pages 11-15]. The examiner responds that the incremented Initial Sequence number is a known element of the standard TCP protocol [answer, page 11].

We will sustain the examiner's rejection of independent claim 1. It appears to us that appellants' arguments are based on their position that the TCP2E protocol of Denker does not meet the claimed invention, however, we find that the TCP2B protocol disclosed in Denker does meet the invention of claim 1. Specifically, Denker discloses that the SYN-ACK message includes the Initial Sequence number Receiver side [see term "client's initial sequence number" of equation 1]. Denker also discloses

that the server waits for an ACK message from the client and determines whether the ACK message passes a mathematical or cryptological test [column 8, line 61 to column 9, line 6]. One formula for this test is shown in equation 2. This equation uses the term "(client's sequence number_{msg3040c}-1)." The term client's sequence number_{msg3040c} is the incremented value of the Initial Sequence number and the "1" is subtracted in the equation to account for this. Thus, the "minus 1" in equation 2 clearly indicates that the Sequence number in the ACK message has been incremented from the Initial Sequence number Receiver side. Therefore, we disagree with appellants' argument that the last step of claim 1 is not taught or suggested by Denker.

With respect to dependent claim 3, appellants argue that Denker fails to show the claimed four steps. Specifically, appellants argue that the portions of Denker cited by the examiner do not show the use of a key as claimed [brief, pages 15-17]. The examiner responds that the random number in Denker is used in the calculation of the encoded value which is used in the messages exchanged when establishing the connection [answer, page 11].

We will sustain the examiner's rejection of dependent claim 3. The portions of Denker argued by appellants relate to the

TCP2E protocol. As noted above, we find that the TCP2B protocol of Denker meets the invention of claim 1. Note that equations 1 and 2 of Denker use the term "random secret" in calculating the encoded value. We find that Denker clearly retains the keys for evaluating the random secrets used in the exchanged messages of Denker.

With respect to dependent claim 4, appellants argue that Denker fails to show the step of claim 4. Specifically, appellants argue that the portions of Denker cited by the examiner do not show picking a category index as claimed [brief, pages 17-18]. The examiner responds that the encoded value in Denker includes various parameters including connection parameters [answer, page 11].

We will sustain the examiner's rejection of dependent claim 4. Appellants have failed to explain why the connection parameters identified by the examiner in Denker do not fall within a category index as broadly recited in claim 4. The mere assertion that an element is not taught within a reference without any explanation or analysis does not rebut a persuasive finding that the element is present.

With respect to dependent claim 5, appellants argue that Denker fails to show the step of claim 5. Specifically,

appellants argue that the portions of Denker cited by the examiner do not show updating a PRN generator at a maximum rate as claimed [brief, pages 18-19]. The examiner responds that the rate at which the secret is updated in Denker is in accordance with the transmission protocol and not at a maximum rate as argued [answer, pages 11-12].

We will sustain the examiner's rejection of dependent claim 5 for the reasons argued by the examiner in the answer.

With respect to independent claim 7, appellants argue that Denker fails to show the last step of claim 7. Specifically, appellants argue that the portions of Denker cited by the examiner do not show evaluating the Initial Sequence number Receiving side and allocating resources in the manner claimed [brief, pages 19-21]. The examiner disagrees [answer, page 12].

We will sustain the examiner's rejection of independent claim 7. Appellants' argument are directed to the TCP2E protocol of Denker. As noted above, we rely on the TCP2B protocol of Denker. Denker clearly teaches in this protocol that resources are not allocated to the connection until the received ACK message has been evaluated for authenticity using embedded connection parameters.

In summary, we have sustained the examiner's rejection of argued claims 1, 3, 4, 5 and 7. We also sustain the rejection with respect to each of the other claims on appeal because they have not been argued. Therefore, the decision of the examiner rejecting claims 1-5 and 7-14 is affirmed.

AFFIRMED

ALLEN R. MACDONALD
Administrative Patent Judge

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